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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,998

10/21/2005

Noboru Sakimura

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1343

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EXAMINER

NGUYEN, TAN

ART UNIT

PAPER NUMBER

2827

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,998	Applicant(s) SAKIMURA ET AL.	
	Examiner Tan T. Nguyen	Art Unit 2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-37 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/05</u> | 6) <input type="checkbox"/> Other: _____ |

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2. The Preliminary amendment submitted by Applicant on October 21, 2005 has been received and entered.

3. The Information Disclosure Statement submitted by Applicant on October 21, 2005 has been received and fully considered.

4. Claims 1-37 are pending.

5. The disclosure is objected to because of the following informalities:

In the specification, page 29, lines 14-17, the words "Figure 8 voltage" should be deleted.

Appropriate correction is required.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/38192.

Regarding claim 1 of the present application, WO 00/38192 discloses in Figure 1 a magnetic random access memory (MRAM) includes a magnetic memory cell (target cell) [11] and a reference magnetic cell (reference cell) [12] (page 3, lines 1-2). The magnetic memory cell [11] coupled to a bit line [23], and the magnetic reference cell [12] coupled to a reference bit line [24] (page 3, line 12). A current sensor [15] includes

resistors [25], [26] having one end coupled to ground power supply, and the other end coupled to the selected bit line [23] and the reference bit line [24], the resistors [25], [26] also coupled to amplifiers [28], [29]. Bit current I_b flowing in resistor [26] generates a voltage drop across resistor [26], which is amplified by amplifier [28] to produce voltage V_1 . Current I_r is converted to V_2 in the same way as current I_b . Outputs of current sensor [15] are coupled to comparator [25] where V_1 and V_2 are compared to provide an output voltage V_{out} on an output terminal [30] (page 3, lines 14-20). The current sensor [15] and the comparator [25] would be considered as the claimed read section.

8. Claims 2-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 22-37 are allowed.

The prior art does not show or suggest the read section comprises a first resistance section comprising at least one tunneling magnetic resistance and a second resistance section comprising at least one tunneling magnetic resistance.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hidaka and Sakimura are cited to show MRAM devices having read circuit including comparator.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan T. Nguyen whose telephone number is (571) 272-

1789. The examiner can normally be reached on Monday to Friday from 07:00 AM to 03:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian, can be reached at (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tan T. Nguyen/
Primary Examiner, Art Unit 2827
February 12, 2008